## ABSTRACT OF THE DISCLOSURE

In the embodiments described in the specification, a permanent magnet synchronous machine has axially spaced stator and rotor segments and windings in the stator segments are supplied with AC signals to produce motor torque, integrated magnetic bearings and active control of the rotor position in six-degrees of freedom.

The rotor segments may be axially offset inwardly or outwardly with respect to the rotor segments.

NY02:368254.1 -25-